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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/725,259	12/01/2003	Leo W. Spychalla	10413US01	2950

7590 12/15/2005

EXAMINER
PAPE, ZACHARY

ART UNIT	PAPER NUMBER
2835	

DATE MAILED: 12/15/2005

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Legal Affairs
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St. Paul, MN 55164-0898

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/725,259	SPYCHALLA, LEO W.	
	Examiner	Art Unit	
	Zachary M. Pape	2835	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 October 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-18 and 21-24* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-8,10-12,17,18 and 21-24* is/are rejected.

7)☒ Claim(s) *9 and 13-16* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *01 December 2003* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *10/13/05*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/13/2005 has been entered.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1-3, 8, 10, 12, 17-18, 21-24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lu et al. (Patent # 6,317,317) in view of Chee et al. (US 6,324,054).

With respect to claim 1, Lu et al. teaches a housing (Fig 1, 10, 30) defining an interior cavity (Space in which hard disk drive 20 is placed), an access window (as shown in Fig 1) and at least one alignment feature positioned within the interior cavity (See present office action Figs 1 and 2 below) and a hard drive (Fig 1, within casing 20) maintained within the interior cavity, the hard drive having at least one electrical connection point (22). Lu et al. fails to teach that the housing includes a polymeric

material. Chee et al. teaches the conventionality of including a polymeric material in a disk drive housing (Column 8, Lines 32-37). It would have been obvious to one of ordinary skill in the housing art at the time the invention was made to combine the teachings of Chee et al. with those of Lu et al. to increase the robustness of a disk drive (Column 2, Lines 43-44). Increasing the robustness increases the longevity of the drive and can further prevent necessary repairs due to mishandling.

With respect to claim 2, Lu et al. further teaches that the hard drive (within casing 20) includes at least one alignment feature to mate with the at least one alignment feature of the housing to at least partially align the at least one electrical connection relative to the access window (The rear of the casing of the disk drive (surrounding the electrical connector) provides a mating alignment feature in that the casing will abut against the alignment feature of the housing).

With respect to claim 3, Lu et al. further teaches that the housing defines a Y-direction parallel to a length of the access window, and a X-direction (Generally along the direction of 30) perpendicular to a width of the access window, the at least one alignment feature of the housing configured to align the at least one electrical connection point relative to the access window in at least one of the X-direction and the Y-direction (The alignment feature will at least partially align the electrical connection point relative to the access window in the x direction).

With respect to claim 8, Lu et al. further discloses that the at least one alignment feature of the housing includes an alignment rib defining a substantially planar surface extending in a direction substantially perpendicular to the access window (As illustrated

in the present office action Fig 2 below), the alignment rib being configured to align the at least one electrical connection point relative to the access window in the Y-direction.

With respect to claim 10, Lu et al. further teaches that the alignment rib is positioned adjacent the access window (See present office action Fig 2 below).

With respect to claim 12, the combination of Lu et al. and Chee et al. describes the claimed invention but does not state a specific tolerance range for which the electrical connector (22) must align in the X and Y direction to the access window. It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize a tolerance range of +/-0.005 inches, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). The stability (result) of the connection is affected by the aforementioned tolerance (i.e. variable) in that there would be a more secure connection using the tolerance provided. Additionally the tolerance could be determined by routine experimentation by one of ordinary skill in the art.

With respect to claim 17, Lu et al. discloses the use of a housing but fails to define a numerical length and width. It would have been obvious to one of ordinary skill in the art at the time the invention was made to have made the length and width of the housing 6 inches and 5 inches respectively, since it has been held that discovering an optimum value of a result effective variable involves only routine skill in the art. In re Boesch, 617 F.2d 272, 205 USPQ 215 (CCPA 1980). Using the variables of 6 inches in length and 5 inches in width results in an ideal disk drive chassis size capable of

conforming to most any standard hard disk drive and further being capable of easily fitting within a standard desktop or notebook computer.

With respect to claim 18, Lu et al. teaches the method of assembling a hard drive to a housing of a data storage cartridge, the method including: providing a housing (Fig 1, 10, 30) of a data storage cartridge (Fig 1, 20) configured for use in an automated library system, the housing defining an access window (Within 1) placing the hard drive (20) within the housing, the hard drive including at least one electrical connection point (22 – Column 2, Lines 18-22) and aligning the at least one electrical connection point relative to the access window in at least one of an X-direction extending substantially parallel to a width of the access window and a Y-direction extending substantially parallel to a length of the access window (Fig 3 illustrates the electrical connection aligned within the housing), wherein the step of aligning the at least one electrical connection point relative to the access window positions the at least one electrical connection point to be accessible from a position external to the data storage cartridge via the access window (As illustrated in Fig 3 showing the electrical connection 22 available for connection to external connector 62 – Column 2, Lines 52-56). Lu et al. fails to teach that the housing includes a polymeric material. Chee et al. teaches the conventionality of including a polymeric material in a disk drive housing (Column 8, Lines 32-37). It would have been obvious to one of ordinary skill in the housing art at the time the invention was made to combine the teachings of Chee et al. with those of Lu et al. to increase the robustness of a disk drive (Column 2, Lines 43-44). Increasing

the robustness increases the longevity of the drive and can further prevent necessary repairs due to mishandling.

With respect to claim 21, Lu et al. further teaches that the housing (1) includes a first planar member (Best defined by the end of the arrow for numeral 1) defining the access window, and the at least one alignment feature (As illustrated in present office action Figs 1 and 2 below) extends from the first planar member (In a direction toward the hard drive) to interact with the hard drive to position the at least one electrical connection point to be contacted through the access window (As illustrated in Lu Fig 3).

With respect to claim 22, Lu et al. further teaches that the housing (1) includes a cover (10) and a base (30) coupled to the cover to define the interior cavity therebetween, the base defining the access window (In that the window is partially formed of the base 30 as best defined by the end of the arrow of numeral 1) and the at least one alignment feature (As illustrated in present office action Figs 1 and 2 below).

With respect to claim 23, Lu et al. further teaches that each of the base and the cover are formed as a single piece (As illustrated in Fig 1).

With respect to claim 24, Lu et al. further teaches that the step of aligning the at least one electrical connection point includes placing the at least one electrical connection point in a position to be transversely contacted by a cartridge drive through the access window (As illustrated in Lu et al. Fig 3, the electrical connector (22) of the drive is accessible through the window by a cartridge drive or any other apparatus).

Claims 4-7, and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lu et al. (Patent # 6,317,317) in view of Chee et al. (US 6,324,054) and further in view of Crockett (Patent # 6,061,231).

With respect to claims 4, 5, and 11 Lu et al. in view of Chee et al. teaches at least one alignment feature positioned within the interior cavity as taught in claims 3 and 8 above, but fails to teach that the alignment feature includes an alignment post. Crockett further teaches an alignment feature of a housing which includes an alignment post (as illustrated in Fig 1, 20) defining a first tier having a first diameter and extending from a first major member of the housing (the base of element 16) and a second tier having a second diameter and extending from the first tier opposite the first major member of the housing, where the first diameter is greater than the second diameter, the alignment post configured to align the at least one electrical connection point on the hard drive (20) of Lu et al. relative to the access window in the X-direction. It would have been obvious to one of ordinary skill in the housing art at the time the invention was made to combine the housing and hard drive of Lu et al. with the alignment posts of Crockett to provide a hard disk drive assembly which has significant resistance to damage from mechanical shock so as to make the disk drive more rugged (Column 2, Lines 23-26).

With respect to claim 6, Crockett further teaches that the at least one alignment feature of the housing (Fig 1, 20) further includes a second alignment post which when inserted into the system of Lu et al. would be configured to align the at least one electrical connection point (22) relative to the access window in the X-direction.

With respect to claim 7, Crockett further teaches a mounting cavity (24) configured to receive an alignment post (20; which when combined with Lu et al. would support the disk drive within the cavity).

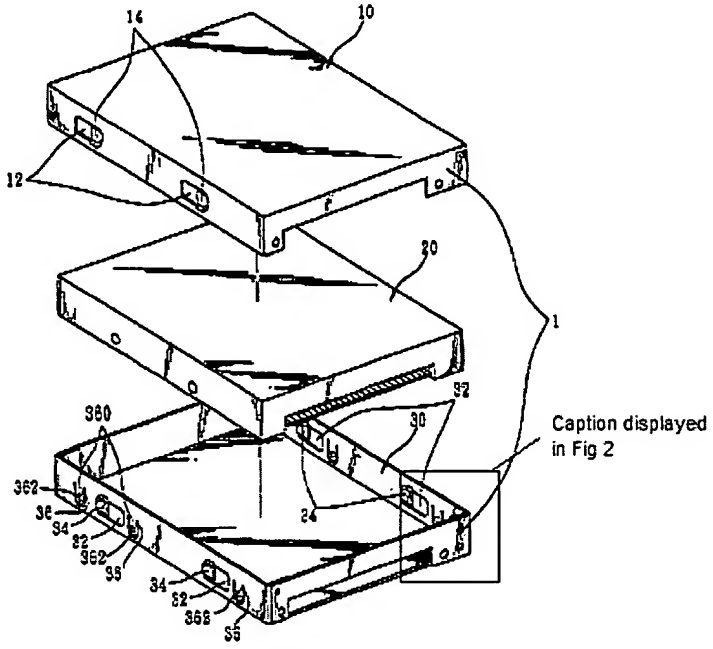

Fig 1

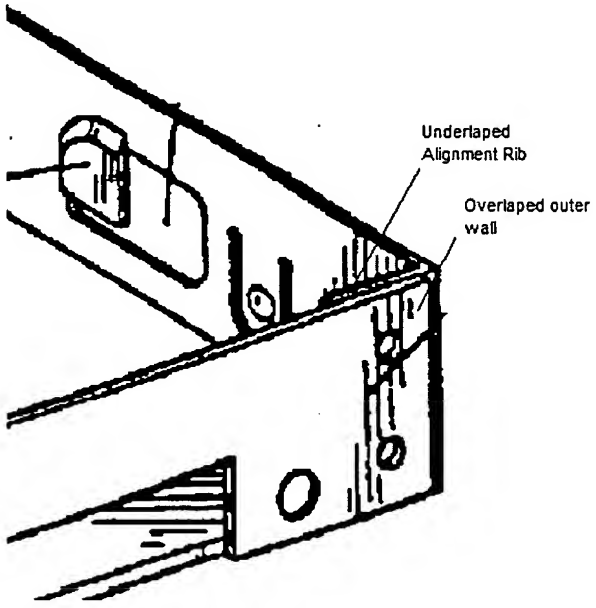

Fig 2

Allowable Subject Matter

3. Claims 9 and 13-16 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

4. With respect to claim 9, the following is a statement of reasons for the indication of allowable subject matter:

The allowability resides in the overall structure of the device as recited in dependent claim 9 and at least in part because claim 9 recites, "the hard drive includes an alignment slot configured to receive the alignment rib".

The aforementioned limitations in combination with all remaining limitations of claim 9 are believed to render said claim 9 patentable over the art of record.

With respect to claims 13-16, the allowability resides in the overall structure of the device as recited in dependent claim 13 and at least in part because said claim 13 recites, "wherein the housing includes a first major member that forms the access window, and the at least one alignment feature of the housing is configured to align the at least one electrical connection point relative to the access window in a Z-direction (wherein applicant defines the Z direction as upward) that is perpendicular to the first major member".

The aforementioned limitations in combination with all remaining limitations of claim 13 are believed to render said claim 13 and all claims dependent therefrom (14-16) patentable over the art of record.

Response to Arguments

Applicant has filed remarks (Dated 10/13/2005) but has not incorporated any arguments. All claims have been considered on their merits.

Conclusion

5. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

US 5,402,308 further teaches alignment features of a disk drive cartridge.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Zachary M. Pape whose telephone number is 571-272-2201. The examiner can normally be reached on Mon. - Thur. & every other Fri. (8:00am - 5:00pm).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lynn Feild can be reached at 571-272-2092. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ANATOLY VORTMAN
PRIMARY EXAMINER